Trust Signaling

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Abstract

We examine whether or not there exists a phenomenon of trust signaling. First, we want to learn whether it is worthwhile for an agent to take a potentially costly action in order to signal the trust in another agent; and second, whether such signal of trust is then rewarded by a trust premium. In the experiment the subjects play a modified investment game: There are two players A and B. Player A chooses amount t from the interval between 0 and 10 to be sent to player B. The invested amount is tripled by the experimenter. Player B then decides whether to return a fair split, 3/2t, or a selfish split, 0, back to the player A. Half of participants play the game sequentially, which allows trust signaling and the other half simultaneously. In the latter case there is no scope for B conditioning his decision on A's invested amount t.

Classification codes: C70; C91

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1 Introduction

Trust is a behavioral phenomenon present in economic and social activities. In certain scenarios the presence of trust enables to achieve mutually better outcomes for all participating parties through engaging in common projects, such as trade transactions, investment, employment, relationship, marriage, or friendship. In many instances trust creates conditions for a positive reciprocation of the other party. For clarity, let us define the trust in a way we are referring to it in this paper by paraphrasing Cox [2000]: An agent undertakes an action that exhibits trust if the chosen action: (a) creates a monetary gain that could be shared with another agent; and (b) exposes him to the risk of a loss of utility if the other agent defects and appropriates too much or all of the monetary gain.

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In economic literature the notion of trust was for the first time explored in an experimental setting by Berg et al. [1995]. The study investigates whether the trust is a primitive that is present in economic behavior after eliminating mechanisms which could sustain investment without trust, such as reputation from repeated interactions, contractual precommitments, and potential punishment threats. Berg et al. found that a significant number of first movers send positive amount of money to their respective counterparts and interpret this result as placing a trust in the belief that there would be reciprocity. A wide body of literature replicated these results (see Fehr and Gaechter [2000] for a survey). Cox [2004] argues that such interpretation requires all first movers who send positive amounts to be self-regarding. In his triadic design Cox discriminates between the trust (and reciprocity) and other-regarding preferences by comparing the behavior of subjects in the investment game with that in a specially designed dictator game. His data supports the claim that subject exert a significant amount of trust in the investment game scenario.

The central question we want to examine is whether or not there exists a phenomenon of trust signaling. First, we want to learn whether it is worthwhile for an agent to take a potentially costly action in order to signal the trust in another agent; and second, whether such signal of trust is then rewarded by a trust premium. Our vehicle of study is a modified investment game (Berg et al. [1995]). We are interested whether there are systematic differences between the behavior of subjects playing the game sequentially, which allows trust signaling and simultaneously where trust signaling is not possible. We modify an investment game in the following way: There are two players A and B. Player A decides how much to invest, i.e., she chooses amount t from the interval between 0 and 10. The invested amount is tripled by the experimenter. Player B then decides whether to return a fair split, 3/2t, or a selfish split, 0, back to the player A. Notice that the difference between this game and the classical investment game is that here B's decision is binary, that is, no splits other than fair and selfish are possible.

Behavior in the modified investment game can be described by the guilt aversion theory (Dufwenberg and Gneezy [2000]; Dufwenberg [2002]; Charness and Dufwenberg [2006]; Battigalli and Dufwenberg [2005]; Battigalli and Dufwenberg [2006], Dufwenberg et al. [2007]). The guilt aversion explanation for why many players A in laboratory experiments send money to their anonymously paired counterparts is that player B would feel guilty if she returned less (or more) than what was expected by her player A counterpart. Player A on the other hand expects this behavior and invests. A crucial part of the theory is that the beliefs of both players about how much should be returned upon investment, coincide. In our scenario if the game is played sequentially player A can signal her higher belief that player B will choose a fair split by sending a higher t. Player B in turn understands this signal and updates her belief about what player A expects him to do. In the sequential game this signaling and updating the beliefs is not possible.

Our game differs from the previous experimental literature on guilt aversion in two ways. First, our main focus is on the behavior of player A in terms

of signaling her beliefs. In contrast, Dufwenberg and Gneezy [2000] measure the correlation between the outside option of player A and the amount player A receives from B in a lost wallet game. They find there is none. However, their results show a positive correlation between how much player B allocates to player A and B's expectations of A's expectation of how much B should allocate. Charness and Dufwenberg [2006] examine the effects of promises made by player B on the decision of player A. Their game includes a chance move so that it is not detectable whether player B defaulted on her promise or whether it was just a bad state of the world. They find that pre-play communication might influence the motivation and behavior of the subjects by affecting beliefs about beliefs. Dufwenberg et al. [2007] create an environment where subjects can strike an informal agreement about how much should be returned upon investment. If an agreement is made the beliefs of both players coincide. The experimental data reveal that players A are influenced by agreements and invest more often, however a large fraction of players B behaves opportunistically and defaults. Dufwenberg et al. find that only about 1/3 of players B honor the informal agreements.

Second, our game is different in structure. It is the player A, who has a rich action set in comparison to rich action set of player B in experiments by Dufwenberg and Gneezy [2000] and Dufwenberg et al. [2007]. Charness and Dufwenberg [2006] use a game where choices of both players and nature are binary.

The present paper could be considered complimentary to research by Falk and Kosfeld [2006] on unintended signaling of distrust and its negative effects on performance. Falk and Kosfeld analyze how an agent perceives principal's decision to control. In their experimental design a principal can choose either to trust the agent or to control him and eliminate the most opportunistic behavior. Their results show that the principal's decision to control significantly reduces agent's willingness to act in the principal's interest. Falk and Kosfeld conjecture that the subjects interpret the control as a signal of distrust and lower their performance. Our aim is to examine whether such a relationship is true also for the opposite - trust signaling. Notice, that in our experiment the signal sent by the principal is intentional, however. Falk and Kosfeld find that most principals do not impose a minimum effort on agents but trust them to perform well on their own. Similarly, we pose a question whether player A in the modified investment game make use of trust signaling to achieve socially more optimal outcomes.

Comparing the behavior of subjects playing the investment game sequentially and simultaneously is somewhat similar to the hot versus cold effect of elicitation procedure in economic experiments. According to the standard game-theoretic view the outcome of the sequential play in our setting should be equivalent to the simultaneous play, just like the outcome of sequential play is equivalent to the strategy method. Indeed, in reality the sequential play and the strategy method often yield similar results (Brandts and Charness [2000], Falk and Kosfeld [2006], and others). However, sometimes in combination with other factors, such as context in which the game is played, the qualitative results

can be reversed (Cox and Deck [2005] and Falk, Fehr, and Fischbacher [2003]) or significantly different (Brosig et al. [2003]). Nevertheless, if trust signaling is behaviorally important, in the experiment we can expect higher amounts to be both sent and returned in the treatment when investment game is played sequentially.

To explain the differences in behavior, let us consider two types of players A in the investment game: trusting and sophisticated trusting. *Trusting* player A is defined by the above definition (see the first paragraph). She puts her trusts in the belief that player B she is dealing with will reciprocate her trusting action. Sophisticated trusting player A, on the other hand, also believes that player B will reciprocate. However, *sophisticated trusting* player A is aware of the positive correlation between the trust and reciprocity (testable hypothesis 1, where both trust and reciprocity are measured in monetary transfers) and she believes that the higher the trust the higher the reciprocity. For that reason, if a trusting player A would exert trust t for which she would expect a return of $r(3t)$, the sophisticated trusting player A will exert a higher level of trust $t + a$ (testable hypothesis 2) for which she expects to receive a return of $r(3(t + a))$ (testable hypothesis 3). The component $r(3(t + a)) - r(3t)$ is called a *trust premium*.[1]

The rest of the paper is organized as follows. The theoretical model is presented in Section 2. Section 3 describes the experimental procedures. The early results are presented in Section 4.

2 The Model

In the general model there are two players A and B. Player A moves first and decides whether to send (invest) $t \in [0, 1]$ or not. Then, the amount is tripled and after this B decides whether to return a "fair split" $3/2t$ or a "selfish split" 0. Our interest is to study the behavior in two different versions of this game. In the first version player B does not observe t, and in the second version B does observe t before making her choice.

Let us suppose that the player B is averse to guilt. This means that her utility depends on what she believes player A expects her to do. If she falls short of A's expectations, i.e., she chooses the selfish split when A expected to receive a fair amount, then she experiences a feeling of guilt which is proportional to the the difference of what was expected and what was received by A. To be a little more precise, denote by α the belief that player A assigns to what B is going to do, i.e., $\alpha = \Pr(\text{"fair split"})$. And, let α_B be a B's estimate of α. If B chooses a selfish split, then she disappoints A (lets A down) in the amount $\alpha(3/2t)$ and experiences guilt in the magnitude $\theta_B \alpha_B(3/2t)$. On the other hand, if she sends $3/2t$ back to A, then she avoids feeling guilty but the cost of this is $3/2t$. Hence,

[1] In the experimental design r corresponds to the fraction of players B who return half of the tripled amount.

for a given belief α_B, B will choose a fair split if

$$\begin{aligned} \theta_B \alpha_B (3/2t) &\geq 3/2t \\ \alpha_B &\geq 1/\theta_B, \end{aligned}$$

that is, if α_B is sufficiently high. If α_B is low, she will keep everything. The decision of the player A is based on her own belief, α, of what B is going to do. If $\alpha \geq 1/\theta_B$ and α_B is a correct estimate of α then A should be confident that B will chose the fair split and hence she should send $t = 1$. If $\alpha < 1/\theta_B$ then she should send 0.

We focus first on what happens in the game where t is not observed. Both players will face some uncertainty about their respective beliefs. Player B bases her decision on her own guess of A's expectations, α_B. On the other hand, player A's expectations, α, will correspond to her own guess about what B is planning to do[2]. Each player's guess is subject to her own experiences and biases and because of this the beliefs of both players will most likely not be identical. On average, however, they should agree. When players act optimally subject to their own beliefs our theory predicts four different kinds of outcomes: $(t = 1, Fair\ split), (t = 1, Selfish\ split), (t = 0, Fair\ split), (t = 0, Selfish\ split)$.

Next let us examine what happens when t is observed B before making her choice. Now, player A may be able to "communicate" though her action, t, how confident she is about receiving $3/2t$. Notice that given her belief, α, A's payoff is given by

$$\alpha(1 - t + 3/2t) + (1 - \alpha)(1 - t).$$

A quick look at this expression reveals that her payoff is increasing in t if

$$\alpha \geq 2/3,$$

and it is decreasing otherwise. Hence, if A trusts B sufficiently to choose the fair split, then A will maximize her payoff by sending $t = 1$ to B. On the other hand if A is doubtful about receiving a fair share, i.e., $\alpha < 2/3$, then she should send nothing to B. However, since t is now observable, B can use it to infer some information about α. In particular, if B observes $t = 1$, then she should set her belief to $\alpha_B \geq 2/3$ and, vice versa, if $t = 0$ was observed, then B's belief should be $\alpha_B < 2/3$. Next, if we assume that θ_B is sufficiently high, i.e., $\theta_B \geq 3/2$, then this implies that after observing $t = 1$, it must be that $\theta_B \geq 3/2 \geq 1/\alpha_B$. This is sufficient to induce B choose the fair split. But then, player A should be confident to get the fair return after sending $t = 1$. As a result she will always have an incentive to send $t = 1$. Thus, when t is observable, our theory predicts a single outcome $(t = 1, Fair\ split)$. In other words, player A signals her high expectations to the player B who will then match these expectations by choosing the fair split.

[2] In an equilibrium these beliefs would have to coincide, i.e., $\alpha = \alpha_B$. However, here we are interested in an induvidual decisionmaking rather than equilibrium behavior.

3 Procedures

The experiment consisted of eight sessions conducted in March of 2007 at the University of Canterbury, Christchurch, New Zealand. A total of [. . .] subjects were recruited from economics and mathematics undergraduate courses. Some of the students had previously participated in economics experiments, but none had experience with trust games. Each subject only participated in a single session of the study. On average, a session lasted 60 minutes including initial instructional period and payment of subjects. Subjects earned on average [. . .].[3] All sessions were hand run in a classroom in the Economics Department.

Each session included 22 subjects who were randomly matched into two person groups that consisted of a player A and player B participants. The assignment of these groups was done according to the following process. The classroom was segmented in half such that all subjects of a given type would be located in the same half of the room. The desks for each type were arranged in two rows facing the wall, and thus neither type would be able to see the other when making decisions. The subjects were free to choose any seat upon enter the classroom. Once everyone was seated, a coin was publicly flipped to determine which side of the room was to be which type. The allocation of a player A and player B to a particular group was done by experimenter randomly pairing one subject from each type together.

At no time during the experiment was there direct interaction. Each subject was provided a set of decision sheets that were identical across subjects. Subjects recorded any decisions during the experiment on these sheets. In order to transfer information between matched pairs, the experimenters collected all decision sheets, copied the decisions from one sheet to another, and then redistributed the sheets to the subjects. This prevented the exchange of superfluous information and aided in maintaining the anonymity of individual decisions.

In order to determine the explanative power of the guilt aversion model, we elicited subjects' beliefs about their counterpart player prior to them playing both trust games. The protocol used follows closely to Dufwenberg and Gneezy (2000). Player A subjects were asked to predict the percentage of all player B subjects who will transfer half in the second stage by completing the following statement, "*I believe that ..... % of players B in the room will return HALF of the tripled amount.*" Player B was asked predict what they believe to be the average answer of player A's by completing the following, "*I believe that the average answer of players A was ..... %.*" The subjects' earnings depended upon the accuracy of their prediction. For this task, all subjects were endowed with \$5. For every one percentage point deviation from the actual outcome, ten cents was deducted from the \$5. Therefore, a deviation of 50% or more resulted in zero earnings.

The general structure of the trust game is similar to Berg et al (1995). In the first stage of each trust game, players A were endowed with \$10NZ. They had to decide how much of this endowment they wanted to keep for themselves and

[3] The adult minimum wage in New Zealand at the time of the experiment was [. . .] per hour. Exchange rate here.

how much to transfer to their anonymous player B counterpart. This was done by circling one of the whole numbers ranging from zero to ten on their decision sheet. It was common knowledge that any amount transferred by player A would be tripled by the experimenter. That is, players B would receive three times the amount that their player A counterpart transferred to them. In the second stage, players B must decide how much of the tripled amount they want to keep for themselves and how much to transfer back to their player A counterpart. This decision is restricted to a binary choice of either half or zero. Just as for players A, this decision was done by circling one of the two choices on their decision sheet.

To allow us to calculate a trust premium, we conducted two versions of the trust game differing in terms of the timing of information presented to players B. In the baseline version, the trust game is played sequentially. That is, players B know the amount that their player A counterpart transferred to them in the first stage. In the second version of the trust game, the decisions by both players are made simultaneously. Therefore, players B must decide whether to return zero or half without knowing how much their player A counterpart transferred to them in the first stage. Four sessions in total will be conducted with each version of the game.

The sequence of events in a session was the following. (1) A coin was flipped to determine player types. (2) The instructions were read aloud for the subjects, who followed along with their own copy. To assist in their understanding, a copy of the instructions was also placed on an overhead and any decisions sheets, tables, etc... were illustrated specifically. The subjects were encouraged to ask questions relating to the rules of the game at any time. (3) Both player types completed the belief elicitation task. (4) The experimenter collected the belief decision sheets and distributed the trust game decision sheets. (5) The sequence of events differed slightly between sessions implementing the sequential and simultaneous trust games. In the simultaneous trust game sessions, both player types of participants made their transfer decisions simultaneously. The experimenter collected all decision sheets, transferred the decision information each decision sheet to their counterparts', and returned the decision sheets to all players to reveal their earnings. In the sequential trust game, players A first made their transfer decision to players B. All decision sheets were collected and the amount transferred from players A were copied to their counterpart players' B decision sheets, which were then returned to players B. Presented with the decision of their player A counterpart, players B made their decision on whether to return half or zero. The experimenter collected all decision sheets, transferred the decision information of players B to their player A counterparts' decision sheet, and returned the decision sheets to all players to reveal their earnings. (6) Subjects completed a short survey on the experiment and general demographic information for which they were paid $5 instead of a show up fee. This was not announced to the subjects at the start of the experiment. (8) Subjects were privately paid their earnings for the session.

4 Results

We have completed one session of the sequential trust game to date. The seven remaining sessions are to be completed the week of March 12-16. Obviously, we can't say much from a single session, but the results are quite promising. The average amount transferred from players A in the first stage was 78% of their endowment. Eight out of twelve subjects transferred 100% and only one transferred zero. Player B subjects reciprocated with nine out of eleven subjects returning half (83%). We expect to replicate the data in the three remaining sequential trust game sessions and have significantly lower transfer rates in the sessions employing the simultaneous trust game.

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5 Appendix

5.1 GENERAL INSTRUCTIONS

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This is an experiment studying decision-making. The instructions are simple and if you follow them carefully and make good decisions, you might earn a considerable amount of money which will be paid to you in cash at the end of the experiment. It is therefore very important that you read these instructions with care.

No Talking Allowed

It is prohibited to communicate with other participants during the experiment. Should you have any questions please ask us. If you violate this rule, we shall have to exclude you from the experiment and from all payments.

Anonymity

Each person will be randomly matched with another person in the experiment. No one will learn the identity of the person she/he is matched with.

Types

Each two person group will consist of two types of participants (Player A and Player B) that are assigned randomly. Your assigned type will be listed at the top of each task instruction sheet.

The Game

You are randomly paired with another individual. One member of your pair will be a player A and the other one will be player B. Find your type in the upper right corner of this sheet. You will never be able to find out the identity of the player you are paired with.

Each player's earnings will be determined according to the process below.

(a) Player A begins the process with \$10, and player B begins with \$0.

(b) Player A then has the opportunity to transfer all, any portion, or none of his/her \$10 to player B. Player A circles his or her decision on line (1) of the attached Decision Sheet. The amount that is not transferred is player A's to keep. The amount that player A transfers triples when it reaches player B. For example, if A transfers \$10 to B, B receives \$30. If A transfers \$5 to B, B receives \$15. If A transfers \$0 to B, B receives \$0.

(c) Player B then has the opportunity to transfer half or none of the money he/she has received to player A. Player B indicates his/her decision in line (3) of the Decision Sheet by circling either HALF or ZERO. The amount that is not transferred is player B's to keep, and the amount transferred is added to player A's earnings.

5.2 Task 1 Instructions for Player A

In task 2, the initially described two stage game is played sequentially. That is, player A makes their transfer decision and then player B makes their transfer decision after being able to see how much player A transferred to them. Therefore, player B is going to make their decision knowing how much player A has transferred to them.

For task 1, you must answer the following question:

After seeing how much is transferred to them from player A, what is the percentage of players B in the room that will return HALF of the amount that they receive, i.e. HALF of the tripled amount that is transferred to them from player A counterpart?

Your payout will depend on your accuracy. The payout is calculated as follows:

You will start with \$5. For every percentage point (1 % point) of mistake, 10 cents will be deducted from this \$5. The mistake is the absolute value of (your answer – the actual percentage). For example, if you answer accurately, you will get \$5. If you miss by 20% points (i.e., your answer is either twenty percentage points too high or twenty percentage points too low), you will be paid \$3 (500 - 20 x 10 = 300). If your mistake will be larger than or equal to 50% points, then your earnings from this task will be zero.

I believe that ... % of players B in the room will return HALF of the tripled amount.

5.3 Task 1 Instructions for Player B

In task 2, the initially described two stage game is played sequentially. That is, player A makes their transfer decision and then player B makes their transfer decision after being able to see how much player A transferred to them. Therefore, player B is going to make their decision knowing how much player A has transferred to them.

Type A players in task 1 are asked to answer the following question:

After seeing how much is transferred to them from player A, what is the percentage of players B in the room that will return HALF of the amount that they receive, i.e. HALF of the tripled amount that is transferred to them from player A counterpart?

For task 2, please answer the following question:

What is the average answer of players A in the room to question posed to them above?

Your payout will depend on your accuracy. The payout is calculated as follows:

You will start with $5. For every percentage point (1 % point) of mistake, 10 cents will be deducted from this $5. The mistake is the absolute value of (your answer – the actual percentage). For example, if you answer accurately, you will get $5. If you miss by 20% points (i.e., your answer is either twenty percentage points too high or twenty percentage points too low), you will be paid $3 (500 - 20 x 10 = 300). If your mistake will be larger than or equal to 50% points, then your earnings from this task will be zero.

I believe that the average answer of players A was . . . %.

5.4 Task 2 DECISION SHEET

Player A begins with $10. Player B begins with $0.

Each dollar that Player A gives to Player B is multiplied by 3 by the experimenter.

The decisions of both players will be made sequentially. Therefore, player B will know how much player A has transferred to player B before player B makes their decision of whether to return HALF or ZERO.

(1) Player A's decision:

Circle the amount that you want to transfer to player B

0 1 2 3 4 5 6 7 8 9 10

(2) The experimenter triples the amount.

(3) Player B's decision:

Circle the amount you want to transfer to player A:

HALF or ZERO

(4) Experimenter calculates total earnings:

Final payoff to player A: _____

Final payoff to player B: _____

5.5 Exit Questionnaire

Thank you for participating in the experiment. While we calculate your final payout, please complete the following survey. All of your responses will remain anonymous and only linked to the decisions within the experiment via your ID#. Therefore, please answer as truthfully and completely as possible. You will be paid $5 for the completion of this questionnaire.

1. Were you a player A or player B?

2. Did you find the instructions clear and self-explanatory? If not, please specify.

3. What was your decision rule when making your choice?

5.6 General Demographic Information

1. What is your age?

2. What is your sex? (Circle one number.)

01 Male 02 Female

3. Which ethnic group(s) do you belong to? (Circle as many as you need, then write the country you are from if applicable.)

01 NZ European/Pakeha 04 Asian
02 NZ Maori Country:
03 Pacific Islander 05 Other
Country: Country:

4. What is your major? (Circle one.)

01 Accounting
02 Economics
03 Finance or Information Systems
04 Education
05 Engineering
06 Law
07 Biological Sciences
08 Math, Computer Sciences, or Physical Sciences
09 Social Sciences or History
10 Humanities
11 Psychology
12 Other Fields

5. What is your class standing? (Circle one.)

01 Undergraduate – first year 04 Honours
02 Undergraduate – second year 05 Masters
03 Undergraduate – third year 06 Doctoral

6. What is the highest level of education you expect to complete? (Circle one.)

01 Bachelor's degree
02 Honour's degree
03 Master's degree
04 Doctoral degree

7. What was the highest level of education that your father (or male guardian) completed? (Circle one.)

01 Less than high school (Fifth Form Certificate or Sixth Form Certificate)
02 High school (Bursary or UE)
03 Vocational or trade school
04 College or university

8. What was the highest level of education that your mother (or female guardian) completed? (Circle one.)

01 Less than high school (Fifth Form Certificate or Sixth Form Certificate)
02 High school (Bursary or UE)
03 Vocational or trade school
04 College or university

9. What is your citizenship status in New Zealand?

01 NZ citizen

02 Permanent Resident
03 Refuge
04 Other

10. Are you a foreign student on a Student Visa?
01 Yes
02 No

11. Are you currently ...
01 Single and never married?
02 Married?
03 Separated, divorced or widowed?

12. On a 9-point scale, what is your current GPA if you are doing a Bachelor's degree, or what was it when you did a Bachelor's degree? This GPA should refer to all of your coursework, not just the current year. Please pick one:
01 Between 7.01 and 9.0 GPA (A- to A+ average)
02 Between 5.01 and 7.0 GPA (B to A- average)
03 Between 3.01 and 5.0 GPA (C+ to B average)
04 Between 1.01 and 3.0 GPA (C- to C+ average)
05 Between 0 and 1.0 GPA (D- to C- average)
06 Have not taken courses for which grades are given

13. How many people live in your household? Include yourself, your spouse and any dependents. Do not include your parents or flatmates unless you claim them as dependents.

14. Please circle the category below that describes the total amount of INCOME earned in 2005 by the people in your household (as "household" is defined in question 13). [Consider all forms of income, including salaries, tips, interest and dividend payments, scholarship support, student loans, parental support, social security, alimony, and child support, and others.]
01 $15,000 or under
02 $15,001 - $25,000
03 $25,001 - $35,000
04 $35,001 - $50,000
05 $50,001 - $65,000
06 $65,001 - $80,000
07 $80,001 - $100,000
08 Over $100,000

15. Please circle the category below that describes the total amount of INCOME earned in 2005 by your parents. [Consider all forms of income, including salaries, tips, interest and dividend payments, social security, alimony, and child support, and others.]
01 $15,000 or under
02 $15,001 - $25,000
03 $25,001 - $35,000
04 $35,001 - $50,000
05 $50,001 - $65,000
06 $65,001 - $80,000

07 $80,001 - $100,000
08 $100,001 - $120,000
09 $120,001 - $140,000
10 Over $140,000
11 Don't know
12 Known only in foreign currency
Write currency and amount here:

16. Do you work part-time, full-time, or neither? (Circle one.)
    01 Part-time
    02 Full-time
    03 Neither

17. Before taxes, what do you get paid? (Fill in only one.)
    01 per hour before taxes
    02 per week before taxes
    03 per month before taxes
    04 per year before taxes

18. Do you currently smoke cigarettes? (Circle one.)
    01 No
    02 Yes
    If yes, approximately how much do you smoke in one day? ... packs